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(54) **FLUORINATED SILICA MICROCHANNEL SURFACES**

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(57) **ABSTRACT**

A method for surface modification of microchannels and capillaries. The method produces a chemically inert surface having a lowered surface free energy and improved frictional properties by attaching a fluorinated alkane group to the surface. The coating is produced by hydrolysis of a silane agent that is functionalized with either alkoxy or chloro ligands and an uncharged C_3–C_{10} fluorinated alkane chain. It has been found that the extent of surface coverage can be controlled by controlling the contact time from a minimum of about 2 minutes to a maximum of 120 minutes for complete surface coverage.

21 Claims, 1 Drawing Sheet